



## MAINTENANCE & CARE GUIDE

These engineered hardwood floors are very easily maintained. Use a quality wood floor cleaner such as those manufactured by Bona and a specialty cloth flooring mop available from flooring retailers.

**NOTE:** If your floor has an oil finish, check with your dealer or installer for appropriate maintenance products and procedures.

**STEP ONE:** Vacuum or sweep your floor to remove any particles that could scratch your floor.

Warning: Vacuums with a beater bar or power rotary brush head can damage a wood floor and never should be used.

Failure to vacuum or sweep your floor before using the dampened cloth to clean can result in "creating mud" on your floor which then can get trapped in the texture of your floor.

**STEP TWO:** Apply the cleaner directly to the cloth flooring mop. Do not spray the cleaner directly on the floor to avoid the wood absorbing the moisture.

Spraying cleaner directly on the floor can also result in the cleaner drying on the floor and leaving a "milky haze" due to dried cleaner solids on top of the finish.

If a haze appears on your floor after a while due to dried solids on the finish you should clean your floor with reverse-osmosis or distilled water instead of a wood floor cleaner for your regular cleaning until the haze is gone.

Reverse osmosis and distilled water have no dissolved solids (like calcium) that tap water can contain. These types of water should re-dissolve the solids dried on the floor, so the cloth can pick them up.

Some approved cleaners (like Bona) have mops that spray a fine mist of cleaner on the floor. These are fine as long as you do not apply too much liquid to the floor and the floor appears dry once done cleaning an area.

**STEP THREE:** Use a back-and-forth motion with the mop. When the cloth cover becomes soiled, simply replace it with a clean one. Cleaning the floor with a soiled cover could cause streaking. The covers are re-usable so simply throw the cover in the wash and dry it as you would any towel. Avoid using fabric softener as the absorbency will be reduced.

## COMMON CLEANING MISTAKES THAT CAN VOID YOUR WARRANTY AND DAMAGE YOUR FLOOR

### **Never wet your floor directly with cleaner or with water.**

Some cleaners have directions to “wet mop” the floor or apply cleaner liberally to the floor. This is not correct and these cleaners or cleaning methods should not be used.

The exception to this is if the cleaner is approved (like Bona) **and is applied in small amounts via a fine mist** like the Bona Spray Mop.

Once your floor has been dust mopped or vacuumed you only need to spot clean the areas that require it.

If you are cleaning the whole floor always spray the mop head with cleaner.

Wetting down your floor with cleaner can damage the floor if the wood absorbs excess moisture and it will cause the haze on your floor that was previously discussed.

The flooring should not look “wet” when you are done cleaning an area. If it looks wet you used too much liquid and did not pick up all the moisture with the back-and-forth motion. Your flooring should look dry when done cleaning an area.

If your floor looks wet after you have cleaned it you have left moisture on the floor. The wood will absorb this moisture and expand. The wood expansion will stretch the urethane finish. When the wood loses this moisture it contracts, but the urethane finish cannot contract. This will weaken the bond between the urethane finish and the wood.

Over time this repeated expansion and contraction due to excessive moisture during cleaning will break the bond between the wood and finish resulting in the finish peeling. This damage is not warrantable as it was caused by excessive moisture.

**STEAM MOP WARNING:** Although promoted by Steam Mop manufacturers as being safe for use on wood floors this is NOT THE CASE.

Use of a steam mop can introduce excess moisture and heat into your wood floor. This can cause permanent damage. **USE OF A STEAM MOP WILL VOID YOUR WARRANTY.**

**CLEANERS WITH OILS WARNING:** Some cleaners that describe themselves as hardwood floor cleaners contain oils (natural or otherwise). These oils can trap dirt in the texture of wire brushed floors and then harden as it dries. This trapped dirt can be very tough to remove. Do not use cleaners with oils on textured hardwood and its best to avoid them on smooth hardwood.

### **HUMIDITY**

To prevent excessive expansion, shrinkage, crackling or buckling of your hardwood floor it is important to maintain humidity level for your area between **25% and 60% RH** (non-radiant heated sub-floors)

**NOTE:** If your flooring has a **4mm lamella** (top layer) and a plywood core, the minimum humidity levels is **30%-65% RH (non-radiant heated sub-floors)**. See your dealer to help determine your lamella thickness.

Use appropriate relative humidity control devices and monitor your relative humidity (RH) with a stand-alone hygrometer that has a humidity range of least 10%-80% RH and is accurate to +/- 3% below 30% RH.

The ThermoPro TP50 model hydrometer is an affordable hygrometer that is accurate in these ranges.

Many hygrometers available at retail stores are not accurate below 30% and can give you a false sense of security. Make sure to check the technical specifications of the hygrometer before making your purchase.

## **RADIANT HEAT SUB-FLOOR MONITORING & HUMIDITY**

If you have a radiant heated sub-floor you must maintain your humidity levels between 30%-60% RH as direct heat tends to drive some moisture out of wood.

**NOTE:** If your flooring has a **4mm lamella** (top layer) and a plywood core, the minimum humidity levels for a radiant heated sub-floor application is **35%-65% RH**. See your dealer to help determine your lamella thickness.

The installer, home builder and homeowner should all have infrared thermometers to measure the surface temperature of the flooring to make sure it does not exceed 80F (27C) at any time.

The thermostats in the house do not measure the flooring temperature so do not rely on them to tell you how hot your floor surface is, use an infrared thermometer.

Infrared thermometers are relatively inexpensive and are available at most home improvement centers.

## **PROTECTION**

Water, dust, sand and salt are the worst enemies of wood. The combined effect of water and sand, salt or dust is devastating to flooring, so it is important to place floor mats at entrances.

Install felt pads to the legs of furniture and chairs to avoid scratching flooring when objects are moved.

If using mats on your wood floor do not use rubber-backed mats as it will trap moisture and damage your floor. Use a breathable mat and honeycomb type of non-slip mat underneath so air can circulate through the mat to the floor.

## **SUNLIGHT**

Normal exposure to sunlight will cause colour changes in any hardwood floor. Area rugs, which block out light, should therefore be shifted regularly. The use of window coverings to shade the floor will minimize changes due to sunlight.

## **CARE PRODUCTS**

For best results, we recommend the use of specially formulated wood flooring cleaners and maintenance products such as Bona products.

**Note:** Never use wax or household detergents on any engineered hardwood floor.

Do not use oil-based soap on a urethane finished floor.

These products may damage the finish and leave a greasy film, making the floor slippery and difficult to maintain afterwards.

# TIMELESS

## WOOD FLOORS

**Your new engineered wood flooring** can be installed over most sub-floors, and is engineered to be dimensionally stable, making it suitable for installation over all grade levels. See all information and installation guidelines below.

### INSTALLER/OWNER RESPONSIBILITY

Wood is a natural product containing natural characteristics in colour, tone and grain. Slight variation in colour is to be expected in a natural wood floor. Your wood floors cannot be guaranteed against natural variation in each plank.

It is recommended that the floor is pre-assembled or “racked out” to achieve the best visual appearance prior to fastening. Minor colour differences between samples and flooring are normal and not considered defects.

The owner/installer assumes all responsibility for final inspection of product quality. **Warranties DO NOT cover materials with visible defects once they are installed.**

The homeowner and/or installer is responsible for final inspection and approval of the boards as to grade, milling quality and factory finish, before the floor is permanently installed. Each piece should be assessed, and boards or mouldings with obvious defects should be rejected, or the defect portion cut off. If either the homeowner or installer determines that the grade, milling quality or factory finish of a complete board or moulding is in question, it should not be used. The manufacturer’s liability is limited to replacing defective material more than 5% of the total only, excluding labor costs. Defective material of 5% or under is considered acceptable.

### JOBSITE CONDITIONS

Due to the stability of this floor’s engineered construction, acclimation to the job site is not required unless the flooring will be transported from one extreme temperature into another. If there is a severe temperature difference, make sure to condition the cartons of wood flooring and adhesive, if being used, 24 hours before the installation. If adhesive is being used follow the adhesive manufacturer instructions. Adhesives by Bona and Titebond are recommended.

### SUB-FLOOR PREPARATION AND RECOMMENDATIONS

All subfloors must be installed as recommended by their manufacturers. Warranties offered for these wood floors do not cover problems caused by inadequate sub-floors.

#### Clean

Subfloor must be free of wax, paint, oil, sealers, adhesives, and other debris.

#### Level/Flat

Sub-floor must be level within 3/16” in 10’ (5mm in 3m) and/or 1/8” in 6’ (3mm in 2m). Sand high areas or joints. If the floor is to be glued down, fill low areas with a latex additive cementitious levelling compound of 3,000-PSI (20000 kPa) minimum compressive strength. Follow the instructions of the levelling compound manufacturer but make certain that the levelling compounds are completely dry before beginning installation. When mechanically fastening the floor down, flatten low spots with plywood or shims (not levelling compounds). Levelling materials must provide a structurally sound subfloor that does not affect the holding power of the fastener.

#### Structurally Sound

Nail or screw any areas that are loose or squeak. Wood panels should exhibit an adequate fastening pattern, glued/screwed or nailed as system requires using an acceptable nailing pattern. Typical: 6” (15cm) along bearing edges and 12” (30cm) along intermediate supports. Flatten edge swell as necessary. Replace any water damaged, swollen or delaminated subfloor or underlay.

## Concrete Sub-Floors

Concrete slabs should be of high compressive strength and constructed to prevent groundwater from permeating the concrete. Concrete sub-floors must be dry, smooth (level within 3/16 " in a 10 foot radius – 1/8 " in 6 ') and free of structural defects. Hand scrape or sand with a 20 grit #3-1/2 open face paper to remove loose, flaky, concrete. Grind high spots in concrete and fill low spots with a Portland based levelling compound (min. 3,000 p.s.i.) Concrete must be free of paint, oil, existing adhesives, wax grease, dirt and curing compounds. These may be removed chemically or mechanically, but **do not use solvent-based strippers under any circumstances.** The use of residual solvents can prohibit the satisfactory bond of flooring adhesives. It is important to ensure a proper adhesive bond between the concrete, and flooring. This engineered hardwood flooring may be installed on-grade, above grade, as well as below grade where adverse moisture conditions do not exist.

To ensure a long-lasting bond, make sure that the perimeter of the foundation has adequate drainage and vapour barrier.

## Light weight concrete

Light weight concrete that has a dry density of 100 pounds or less per cubic foot is not suitable for glued down engineered wood floors. Many products have been developed as self-levelling toppings or floor underlayment. These include cellular concrete, resin-reinforced cementitious underlayment, and gypsum-based materials. Although some of these products may have the necessary qualifications of underlayment for wood flooring installations, others do not.

To test for lightweight concrete, scrape a coin or key across the surface of the subfloor. If the surface powders easily or has a dry density of 100 pounds or less per cubic foot, do not install this Engineered Wood flooring unless using the floating method.

## Wood sub-floors

All wood subfloors must be structurally sound, dry, at least 19/32" in thickness if plywood and 23/32 thick if OSB, solidly fastened to

appropriately spaced floor joists, and in compliance with all local building codes.

Truss/joist spacing will determine the minimum acceptable thickness of the panel subflooring. For detailed information regarding each different kind of subfloor, refer to the latest National Wood Flooring Association (NWFA) Installation Guidelines.

- On truss/joist spacing of 16" o/c or less the subflooring thickness should be minimum 19/32" plywood or subfloor rated 23/32" OSB
- On truss/joist spacing of more than 16", up to 19.2" o/c, the subfloor thickness should be minimum 23/32" Plywood or subfloor rated 23/32" OSB glued and mechanically fastened.
- On truss/joist systems spaced over more than 19.2" o/c up to a maximum of 24" the subfloor thickness should be minimum 7/8" subfloor rated Plywood or OSB glued and mechanically fastened – or two layers of subflooring or bracing between the truss/joist in accordance with the truss/joist manufacturer's recommendations and with local building codes.
- On truss/joist spacing of more than 24", up to 32" o/c, the subfloor thickness should be minimum 1-1/8" subfloor rated plywood or OSB glued and mechanically fastened - or two layers of subflooring or bracing between the truss/joist in accordance with the truss/joist manufacturer's recommendations and with local building codes.
- For installation over solid wood board subfloors, if the engineered flooring being used is less than 3/4" thick, an additional minimum 19/32" thick plywood or OSB layer will be required or, if preferred the solid board subfloor can be removed and replaced with plywood or OSB per recommendations based on truss/joist spacing above.
- Install new flooring at right angles to existing flooring if installing over nail down floors.
- Do not install hardwood flooring over particle board or existing glue down hardwood floors.

Make sure subfloor is dry. Subfloor moisture content cannot exceed 10% prior to installation of a wood floor. To determine the moisture content, use a good quality moisture meter. Next, determine if the subfloor is structurally sound.

#### **Sub-floors other than wood or concrete**

**Note:** Perimeter glued resilient vinyl and rubber tiles are unacceptable underlayment and must be removed.

Terrazzo, tile and any other hard surfaces that are dry, structurally sound and level, as described above, are suitable as a sub-floor for this engineered hardwood flooring installation. As above, the surface must be sound, tight and free of paint, oil, existing adhesives, wax, grease and dirt. Terrazzo and ceramic tile must be scuffed to assure adhesion.

**WARNING! Do not sand existing resilient tile, sheet flooring, backing, or felt linings. These products may contain asbestos fibers. that are not readily identifiable. Inhalation of asbestos dust can cause asbestosis or other serious bodily harm. Check with local, provincial and federal laws for handling hazardous material before attempting the removal of these floors.**

#### **Radiant Heated Sub-floors**

**IMPORTANT:** Depending on specific flooring construction, some products are approved for glue down installation over hydronic radiant heat and others are not. Be sure to check with your retailer or distributor for suitability of your material for glue down, radiant heat installation.

ie) Hickory is never warranted over radiant heat.

**Only hydronic radiant heat systems are approved for installation. Electrical radiant heat systems are not approved and may void the floor warranty**

The flooring surface must never exceed 80 F. (27 C.) in temperature.

Before installing over a radiant-heated floor turn off heat and wait until the floor has reached room temperature.

After installing the floor gradually return the heat to the previous setting increasing the heat 2 F or 1C per day maximum. Do not exceed 80F (27C) surface temperature.

If you are installed over a radiant heated sub-floor in the winter and the sub-floor is the only source of heat, then turn the temperature down until the sub-floor surface temperature is 65F (18C) and then install.

Increasing the heat of the sub-floor faster than 2 F or 1 C/day can cause rapid loss of moisture in the wood, which can cause the wood to crack.

**NOTE: Hickory flooring is never approved for use over radiant heat sub-floors**

#### **PREPARATION**

Remove all mouldings and wall-base and undercut all door casings with a hand or power jam saw using a scrap piece of flooring as a guide.

##### **“Racking the Floor”**

Whether you choose to install the floor with glue, nails, or staples or by floating, start by using random length planks from the carton or by cutting four to five planks in random lengths, differing by at least 6". As you continue working across the floor be sure to maintain the 6" minimum between end joints on all adjacent rows. Never waste material; use the left-over pieces from the fill cuts to start the next row or to complete a row.

**Note:** When installing a pre-finished wood floor be sure to blend the wood from several cartons to ensure a good grain and shading mixture throughout the installation.

## GLUE DOWN INSTALLATION GUIDELINES

There are two ways to install when using wood flooring adhesive. Wet-Lay, meaning to lay directly into wet adhesive and Dry-Lay method meaning to allow the adhesive to flash or to tack up.

Caution: Whether you choose to install using the dry or wet method follow all guidelines set by the adhesive manufacturer. By not adhering to the guidelines you can void your flooring warranties

### Wet Lay Method

#### Step 1

Select a starter wall. It is recommended to start the installation along an exterior wall; it's more likely to be straight and square with the room. Measure out from the wall the width of two planks and mark each end of the room and snap your chalk line.

#### Step 2

Spread the adhesive from the chalk line to the starter wall using the recommended trowel. It is important to use the correct trowel at a 45% angle to get the proper spread of adhesive applied to the sub-floor, which will produce a proper and permanent bond. Improper bonding can cause loose or hollow spots.

Note: Change the trowel every 2000 to 3000 square feet due to wear down of the notches. This assures you always get the proper spread of adhesive.

#### Step 3

Install the first row of starter planks with the tongue facing the starter wall and secure into position. Alignment is critical and can be achieved by securing a straight edge along the chalk line (2'x 4's work well), or by top nailing the first row with finishing nails (wood sub-floor), or sprig/pin nails (concrete sub-floor). This prevents slippage of the planks that can cause misalignment.

Note: The planks along the wall may have to be cut to fit since most walls are not straight and

leaving an expansion space is not necessary with these engineered planks and strips.

#### Step 4

Once the starter rows are secure spread 2-1/2 to 3 feet of adhesive the length of the room. (Never lay more adhesive than can be covered in the time designated by the adhesive manufacturer.)

Place the tongue into the groove of plank and press firmly into adhesive. Never slide planks or strips through adhesive. Use a tapping block to fit planks snug together at side and butt-ends. Test for proper bond by occasionally lifting a board and looking for good coverage (90%), then replace it into the adhesive.

Clean any adhesive off the surface before it cures using the manufacturer's adhesive towel or approved adhesive cleaner. Consult adhesive manufacturer for recommendations.

Use tensioning straps (preferred method) or Blue Mask Tape or another low adhesion delicate surface masking tape to hold planks securely in place as you are installing and continue the process throughout the installation. Remove the tape when the installation is completed. **Note: Do not leave tape on the floor more than 12 hours or damage to the finish may occur when tape is removed.**

Remove tape carefully and slowly, pull tape at a 45-degree angle over itself. Use caution when using a rubber mallet to butt material together, it can burn the finish and cause marring.

**Note:** Never work on top of the flooring when installing with the wet lay method as boards may slide out of position.

### Dry Lay Method

#### Step 1

Start by selecting your starter wall and measure out from the wall the width of 8 - 10 boards plus 1/2 inch (expansion space). This will allow adequate working space. Snap chalk line.

## Step 2

Apply adhesive from the chalk line out 2½' – 3'. Allow adhesive to flash as per the instructions affixed to the adhesive container. The humidity chart will aid in allowing the appropriate flash time based on the temperature and humidity.

Secure your starter rows with a straight edge (2'x 4's). Install planks and secure with Blue Mask Tape or straps. as you continue throughout your installation. If you must work on top of the newly laid flooring use a kneeling board.

Use tensioning straps (preferred method) or Blue Mask Tape or another low adhesion delicate surface masking tape to hold planks securely in place as you are installing and continue the process throughout the installation. Remove tape when the installation is completed.

**Do not leave tape on the floor more than 12 hours or damage to the finish may occur when tape is removed. When you remove the tape, do so carefully and slowly, pull tape at a 45-degree angle over itself.**

Once the remainder of the floor has been installed go back to the beginning and remove straight edges and spread adhesive on the remainder of the open subfloor, allow to flash for the appropriate time and lay flooring as instructed. Remembering that the planks closest to the wall may need cutting to fit, due to irregularities along the wall.

## Clean Up

Use flooring adhesive towels or other cleaner approved by the adhesive manufacturer to clean as you go, along with a wood flooring cleaner. Both are easy and convenient to use. Adhesive that has cured on the surface of the flooring can be difficult to remove and may require the use of a Urethane Remover if a urethane adhesive is used. This product has been recommended by the adhesive manufacturer and is safe for the finish of your pre-finished wood floor. Once the floor is completed, clean the flooring with a quality wood floor cleaner.

**WARNING:** If urethane adhesive dries on the surface of the floor it may permanently etch the surface.

Light foot traffic is allowed after 12 hours. Once the tape is removed clean any adhesive residue left from the tape with Adhesive Towels.

## FLOATING INSTALLATIONS

Recommended Adhesive for Floating:

Franklin Tongue and Groove adhesive (cross linking polyaliphactic emulsion glue)

## PLAN YOUR INSTALLATION

Floating floors require freedom to experience expansion and contraction without binding or rubbing on vertical surfaces. Bedrooms and halls should be isolated from other rooms by using T-Mould transitions.

**Be sure to leave ½" expansion space around every obstruction including cabinets and fireplaces. Do not exceed 30-foot spans without an expansion joint and transition moulding.**

## STEP ONE UNDERLAYMENT

1. Be sure to follow subfloor recommendations listed earlier. High or low spots can cause deflection of the flooring when walked on. Severe deflection may damage the flooring tongue and groove.
2. If the sub-floor is concrete install a 6-mil poly vapour barrier. All vapour barrier joints should be lapped 6" and taped with a moisture resistant tape.
3. Install the underlay parallel to the starting wall and in the same direction that the Flooring will be installed. Do not overlap joints. Underlay should be cut flush with the walls. Tape all underlay joints using a water-resistant tape such as packing tape or duct tape; allow no wrinkles. Tape the starting row of underlay to the floor to prevent movement



## STEP 2 WORKING LINE

1. Place a mark approximately 18" from the corners of the starting walls add the width of flooring + 1/2" to allow for expansion and the tongue. Strike a chalk line through these two points the length of the room to the end walls on top of the underlayment. This line is the STARTING LINE.

NOTE: lack of expansion may cause squeaking or sections to pull apart during dry seasons due to contact with vertical surfaces.

2. Measure the distance between the starting line and the wall the full length of the starting wall. If the wall is badly out of line (crooked) it may be necessary to rip boards to follow the irregularity in the wall. Option: Using no adhesive install a strip on the inside edge (closest to the wall) of the chalk line. This row may be of any straight wood material. Make certain each of the Strips is in perfect alignment with the starting line using wedges to hold the flooring in place on the ENDS.

## STEP 3 INSTALLATION OF BOARDS

1. Lay the boards out the length of the room. Make certain that the last and final board in the row will be at least 12" in length. The last UNCUT board must allow at least 12" between the board end and the wall. If the board in the row will need to be cut less than 12" in length to complete the row adjust the board selection accordingly.

2. Begin installation from the RIGHT corner with the tongue facing you and the long GROOVE facing the starting wall or strip row. The short end GROOVE should be facing the end wall. Align the first board with the STARTING LINE.

3. Select the second board. Place a 1/8" continuous bead of glue in the inside bottom edge of the END groove. DO NOT apply glue to the long side groove now. Carefully interlock the joint with the first board always maintaining alignment with the

STARTING LINE. Remove any excess glue from the surface with a towel dampened in warm soapy water. Use tensioning straps (preferred method) or blue tape to temporarily hold the end joints together. See tape recommendations

below. Use wedges or waste material in the expansion gap on the side and end walls (ends only if sacrificial board was used) to maintain alignment with the STARTING LINE. Continue installing in this manner until the first row is complete.

4. Measure and cut to length the final board in the row allowing 1/2" expansion between the end of the board and the end wall. Apply glue in the groove and install. Set the waste end aside for later use.

5. Select a new set of materials. If the cut-off waste from the first row was 18" or longer it can be used as the first board in the row. Maintain 6" spacing between the end joints of all rows.

6. Place a continuous bead of glue along the inside bottom edge of the END groove and the same location on the side groove. Carefully align the tongue and grooves together and tighten the plank until all joints are snug. Remove any excess glue as before and temporarily hold the joints together using blue tape. Cut and install the final board in the row

7. Continue in this manner until the first four rows are completed. This four-row area is the base for the balance of the floor installation. Perfect alignment is essential, as any variance will worsen as the flooring proceeds further into the room. Carefully inspect for proper alignment before the glue sets. Adjust as necessary.

8. Continue with the installation as above. Continue using tensioning straps (preferred) or blue tape to hold the joints together and wedges to hold the end joints in place.

Use blue mask tape, another low adhesion delicate surface masking tape, or straps (preferred) to hold planks securely in place as you are installing and continue the process throughout the installation. Remove tape when the installation is completed. **Do not leave tape on the floor more than 12 hours or damage to the finish may occur when tape is removed. Remove tape carefully and slowly, pull tape at a 45-degree angle over itself.**

DO NOT walk on the finished floor during installation, as this will break the uncured glue joint. DO NOT roll the floor for the same reason.

9. Finish the final row by cutting the boards to fit, always allowing for expansion space.

10. If a Starting strip was used remove it and replace with a row of material that is properly edge glued as above.

#### STEP 4 COMPLETING THE JOB

1. Remove all tape from the floor starting from the area in which the wood was first applied. Inspect for gaps, chips and glue residue while removing the tape. Remove all glue residue, touch up chipped areas and fill with the appropriate filler as necessary. Use a complimentary coloured filler such as Color Rite.

2. Install/reinstall all mouldings and clean the floor with the appropriate cleaner.

3. First use of the floor varies from one glue manufacturer to another. Generally, the floor can have light foot traffic after the glue has cured for 8-24 hours with furniture being LIFTED into place after 24 hours. **NOTE:** Avoid walking on the floor during installation as traffic may loosen or break glue joints.

#### NAIL DOWN INSTALLATIONS

**NOTE: It is a requirement that all products with a board width of 5 inches and wider have the nail fastening supplemented using adhesive. Failure to supplement nailing with adhesive may result in board movement or noises to emanate from moving boards which will not be considered a manufacturing defect.**

These adhesives may be troweled on using methods and trowels recommended by the manufacturer or laid down in a bead if using sausage or cartridge adhesive. If troweling and nailing the floor you should spread rows of adhesive that are perpendicular to the board direction and no more than 12 inches apart.

If beads of adhesive are used, they should be applied to the subfloor in a serpentine fashion along the entire length of the board along the groove side. A flexible wood flooring adhesive such as Titebond 771, Titebond 801, Bona R851 or R850T (tube) should be used. Care must be taken to remove excess adhesive from the floor surface immediately or permanent damage may result.

Fastener Guide	Flooring Thickness		
	½"(12mm)	9/16"(14mm) – 5/8" (15mm)	¾" (18-19mm)
18 ga 1-1/4" Cleat/Staple	<b>X</b>		
18 ga 1-1/2" Cleat/Staple	<b>X</b>	<b>X</b>	
18 Ga 1-3/4" Cleat	<b>X</b>	<b>X</b>	<b>X</b>
16 ga 1-3/4" or 2" Cleat		<b>X</b>	<b>X</b>
15.5 ga 1-3/4" or 2" Staple			<b>X</b>
<b>Fastener Spacing</b>			
18 ga:1" – 2" from the ends and every 4" along the edge tongues.			
15.5 ga or 16 ga: 1" – 3" from the ends and every 6" – 8" apart along the edge tongues			

When installing these engineered wood planks or strips by nailing, it is necessary to use the proper type of flooring nailer or stapler made for these engineered wood floors. See the fastener

guide above to determine the appropriate fastener length and gauge based on your floor thickness.

Numerous tool manufacturers, including Primatex and Powernail manufacture tools suitable for these installations. Incorrect tool adjustment or cleat size may cause displaced wood to create blemishes on the floor surface. Cleats of insufficient gauge and/ or length may not secure the flooring to the subfloor adequately.

**Caution:** We have tested the above-recommended tools and fasteners. Other staplers, staples, nailers and cleats may work as well, however, since they are not currently recommended if their use damages or fails to properly secure the flooring, the responsibility is the installer's and not the manufacturer.

Refer to the fastener guide above to determine the appropriate fastener spacing based on the thickness of your floor. This will help insure a satisfactory installation. It is best to set the compressor PSI at 80 - 85 lb. to keep the fasteners from going through or breaking the tongues. Improper fastening techniques can cause squeaks in the floor.

Adjustments may be necessary to provide adequate penetration of the fastener into the nail bed. You want the fastener flush in the nail pocket, not counter sunk or protruding. Use a scrap piece of flooring material to set tools properly before installation.

**Note:** Some darker coloured and/or smooth textured floors may show fastener "bumps" in some applications that have certain lighting conditions. These bumps are caused by wood that is displaced by the fastener and are present in every floor. Usually the combination of texture and lighting makes these bumps impossible to see except in a few rare cases. If the "fastener bump" is visible, the flooring will need to be glued down to the sub-floor with no mechanical fasteners used. This is not a product defect, but a situation created by a combination of lighting, texture and colour.

If installing over a crawl space or wet basement, it is advisable to use the full glue down method, this will help to retard moisture from below. Keep in mind there is no complete moisture barrier system for nail down installations.

## Beginning installation

Place the planks with the tongue facing away from the wall and along your chalk line. Use brads or small finishing nails to secure the first starter row along the wall edge 1" – 2" from the ends and every 4" along the side. Counter-sink the nails and fill with a filler that blends with the flooring installed. Place the nails in a dark grain spot in the board. The base or shoe moulding will cover the nails when installed after completion of the installation.

Blind nail at a 45o-degree angle through the tongues. It will be easier IF YOU PRE-DRILL THE HOLES IN THE TONGUES. Nail 1" – 2" from the ends and every 4" along the sides. It will be necessary to blind nail the next 2 rows. A brad nailer with 1"-3/8" brads can also be used to blind nail and no pre-drilling is needed.

Continue the installation using an engineered wood flooring nailer, using nails recommended by the manufacturer. (see fastener table above)

## Complete the Installation

-Vacuum all dust and loose particles from the floor then clean it with the recommended wood flooring cleaner such as Bona.

-Install or re-install any transition pieces that may be needed, such as Reducer Strips, T-mouldings, or Thresholds. The products are available pre-finished to blend with your flooring.

-Install or re-install all base and/or quarter round mouldings. Nail mouldings into the wall, not the floor. Inspect the floor, filling all minor gaps with the appropriate blended filler.

-If the floor is to be covered, use a breathable material such as Albert Floorotex or cardboard. Do not cover with plastic.

**-Leave a copy of this warranty and floor care information that you are reading with the owner. There should be one copy per box of flooring. Advise the homeowner / builder of the product name and code number of the flooring they purchased.**

-To prevent surface damage avoid rolling heavy furniture and appliances on the floor. Use plywood, hardboard or appliance lifts if necessary. Use protective castors/castor cups or felt pads on the legs of furniture to prevent damage to the flooring.

## **MAINTENANCE**

These engineered hardwood floors are very easily maintained. Use a quality wood floor cleaner such as those manufactured by Bona and a specialty cloth flooring mop available from flooring retailers.

**NOTE:** If your floor has an oil finish, check with your dealer or installer for appropriate maintenance products and procedures.

**STEP ONE:** Vacuum or sweep your floor to remove any particles that could scratch your floor.

Warning: Vacuums with a beater bar or power rotary brush head can damage a wood floor and never should be used.

Failure to vacuum or sweep your floor before using the dampened cloth to clean can result in "creating mud" on your floor which then can get trapped in the texture of your floor.

**STEP TWO:** Apply the cleaner directly to the cloth flooring mop. Do not spray the cleaner directly on the floor to avoid the wood absorbing the moisture.

Spraying cleaner directly on the floor can also result in the cleaner drying on the floor and leaving a "milky haze" due to dried cleaner solids on top of the finish.

If a haze appears on your floor after a while due to dried solids on the finish you should clean your floor with reverse-osmosis or distilled water

instead of a wood floor cleaner for your regular cleaning until the haze is gone.

Reverse osmosis and distilled water have no dissolved solids (like calcium) that tap water can contain. These types of water should re-dissolve the solids dried on the floor, so the cloth can pick them up.

Some approved cleaners (like Bona) have mops that spray a fine mist of cleaner on the floor. These are fine as long as you do not apply too much liquid to the floor and the floor appears dry once done cleaning an area.

**STEP THREE:** Use a back-and-forth motion with the mop. When the cloth cover becomes soiled, simply replace it with a clean one. Cleaning the floor with a soiled cover could cause streaking. The covers are re-usable so simply throw the cover in the wash and dry it as you would any towel. Avoid using fabric softener as the absorbency will be reduced.

## **COMMON CLEANING MISTAKES THAT CAN VOID YOUR WARRANTY AND DAMAGE YOUR FLOOR**

**Never wet your floor directly with cleaner or with water.**

Some cleaners have directions to "wet mop" the floor or apply cleaner liberally to the floor. This is not correct and these cleaners or cleaning methods should not be used.

The exception to this is if the cleaner is approved (like Bona) **and is applied in small amounts via a fine mist** like the Bona Spray Mop.

Once your floor has been dust mopped or vacuumed you only need to spot clean the areas that require it.

If you are cleaning the whole floor always spray the mop head with cleaner.

Wetting down your floor with cleaner can damage the floor if the wood absorbs excess moisture and it will cause the haze on your floor that was previously discussed.

The flooring should not look “wet” when you are done cleaning an area. If it looks wet you used too much liquid and did not pick up all the moisture with the back-and-forth motion. Your flooring should look dry when done cleaning an area.

If you floor looks wet after you have cleaned it you have left moisture on the floor. The wood will absorb this moisture and expand. The wood expansion will stretch the urethane finish. When the wood loses this moisture it contracts, but the urethane finish cannot contract. This will weaken the bond between the urethane finish and the wood.

Over time this repeated expansion and contraction due to excessive moisture during cleaning will break the bond between the wood and finish resulting in the finish peeling. This damage is not warrantable as it was caused by excessive moisture.

**STEAM MOP WARNING:** Although promoted by Steam Mop manufacturers as being safe for use on wood floors this is NOT THE CASE.

Use of a steam mop can introduce excess moisture and heat into your wood floor. This can cause permanent damage. USE OF A STEAM MOP WILL VOID YOUR WARRANTY.

**CLEANERS WITH OILS WARNING:** Some cleaners that describe themselves as hardwood floor cleaners contain oils (natural or otherwise). These oils can trap dirt in the texture of wire brushed floors and then harden as it dries. This trapped dirt can be very tough to remove. Do not use cleaners with oils on textured hardwood and its best to avoid them on smooth hardwood.

## WARRANTY

### MANUFACTURER OBLIGATIONS

The responsibility of the mill is limited to repairing, refinishing or replacing defective products, to their discretion.

No distributor, retailer, installer, agent, salesperson or representative is authorized to modify or extend the conditions or duration of this warranty. Other compensation, like removal, installation, incidentals or any other expenses, are not covered by this warranty. (Note: Exclusions or limitations may not apply if they are against state or provincial law)

### EXCLUSIONS

This warranty is not transferrable and applies to the original purchaser. As- is product sales do not have a warranty.

This warranty shall exclude the damages resulting from following:

- Failure to follow the installation instructions.
- Reduction or dulling of the floor's shine or gloss, which is not considered surface wear.
- Shrinking and/or expansion of the floor, which is due to changes in relative humidity.
- As wood is a product of nature, minor quality variations up to 5% of total square footage purchased are not covered by this warranty (as per industry standard)
- Incorrect handling or storage.
- Cracking or/and peeling due to excessive surface pressure.
- Neglect of maintenance, prevention or protection of said product.
- Use of the product for other means than residential purposes.
- Abnormal wear or abuse (i.e. indentations caused by spike heels, furniture or other sharp or abrasive objects, etc.)
- Excessive moisture damage (cracks, chips, splinters, finish peeling, etc.) resulting from

saturation with water or other liquid. (See steam mop warning in the maintenance section)

-Insect infestation, blemishes or scratches caused by pets.

-Extreme weather conditions and natural disasters.

-Improper installation or acclimation.

-Any unauthorized repairs, refinishing, or removal of wood strip flooring.

-Noises emanating from the floor due to insufficient fastener spacing, tool setup, incorrect fastener size, improper subfloor, sub-floor deflection/movement or failure to supplement nails with adhesive.

-Cracks or checks due to exposure to low humidity environments or excessive flooring surface temperature (higher than 80F/27C)

## HOMEOWNER / BUILDER OBLIGATIONS

### HUMIDITY

To prevent excessive expansion, shrinkage, crackling or buckling of your hardwood floor it is important to maintain humidity level for your area between **25% and 60% RH** (non-radiant heated sub-floors)

**NOTE:** If your flooring has a **4mm lamella** (top layer) and a plywood core, the minimum humidity levels is **30%-65% RH (non-radiant heated sub-floors)**. See your dealer to help determine your lamella thickness.

Use appropriate relative humidity control devices and monitor your relative humidity (RH) with a stand-alone hygrometer that has a humidity range of least 10%-80% RH and is accurate to +/- 3% below 30% RH.

The ThermoPro TP50 model hydrometer is an affordable hygrometer that is accurate in these ranges.

Many hygrometers available at retail stores are not accurate below 30% and can give you a false sense of security. Make sure to check the technical specifications of the hygrometer before making your purchase.

## RADIANT HEAT SUB-FLOOR MONITORING & HUMIDITY

If you have a radiant heated sub-floor you must maintain your humidity levels between 30%-60% RH as direct heat tends to drive some moisture out of wood.

**NOTE:** If your flooring has a **4mm lamella** (top layer) and a plywood core, the minimum humidity levels for a radiant heated sub-floor application is **35%-65% RH**. See your dealer to help determine your lamella thickness.

The installer, home builder and homeowner should all have infrared thermometers to measure the surface temperature of the flooring to make sure it does not exceed 80F (27C) at any time.

The thermostats in the house do not measure the flooring temperature so do not rely on them to tell you how hot your floor surface is, use an infrared thermometer.

Infrared thermometers are relatively inexpensive and are available at most home improvement centers.

## FINAL PRODUCT INSPECTION

The installer and/or the owner assume final inspection and acceptance for the product quality prior the installation.

The owner/installer assumes all responsibility for final inspection of product quality. **Warranties DO NOT cover materials with visible defects once they are installed.**

## PROTECTION

Water, dust, sand and salt are the worst enemies of wood. The combined effect of water and sand, salt or dust is devastating to flooring, so it is important to place floor mats at entrances.

Install felt pads to the legs of furniture and chairs to avoid scratching flooring when objects are moved.

If using mats on your wood floor do not use rubber-backed mats as it will trap moisture and

damage your floor. Use a breathable mat and honeycomb type of non-slip mat underneath so air can circulate through the mat to the floor.

## **LIQUIDS AND SPILLS**

Never use a dampened mop or wet cloth to clean your hardwood floor. Water can seriously damage any kind of wood. All liquids and spills should be wiped off as soon as possible to prevent any possible damage.

## **SUNLIGHT**

Normal exposure to sunlight will cause colour changes in any hardwood floor. Area rugs, which block out light, should therefore be shifted regularly. The use of window coverings to shade the floor will minimize changes due to sunlight.

## **CARE PRODUCTS**

For best results, we recommend the use of specially formulated wood flooring cleaners and maintenance products such as Bona products.

**Note:** Never use wax or household detergents on any engineered hardwood floor.

Do not use oil-based soap on a urethane finished floor.

These products may damage the finish and leave a greasy film, making the floor slippery and difficult to maintain afterwards.

## **PROCEDURES**

Should you need to file a claim under this warranty, here is the procedure to follow:

Contact your authorized dealer and/or distributor where the floor was purchased.

You must have a copy of your original receipt and be the original owner of the floor.

Defect must be readily visible from a standing height in all lighting conditions.

At least 10% of the floor surface must be affected.

The factory keeps the right to inspect the floor and remove samples for technical analysis.